

Abstract of the Disclosure

A voltage controlled oscillator using a resonator
5 having a photonic bandgap structure and a feedforward
circuit is disclosed. The voltage controlled oscillator
includes a resonation unit for resonating an oscillated
signal by using a resonator having the photonic bandgap
structure in order to increase a quality factor and an
10 oscillation unit for controlling a phase of the oscillated
signal by using the feedforward circuit in order to reduce
phase noise. The present invention can reduce phase noise
and increase efficiency of integration by using the
photonic bandgap structure of a resonator and the
15 feedforward circuit is used for maintaining high Q factor.